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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/678,696

10/02/2003

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6453P012

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07/19/2007

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EXAMINER²

SMITH, JEFFREY S

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

07/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/678,696

Applicant(s)

SAKUYAMA ET AL.

Examiner

Jeffrey S. Smith

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) 1-28 and 53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-34, 37-42 and 45-50 is/are rejected.
- 7) ☒ Claim(s) 35, 36, 43, 44, 51 and 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of species V (claims 29-52) in the reply filed on April 26, 2007 is acknowledged. Claims 1-28 and 53 have been canceled and claims 29-52 are examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 29-34, 37-42, and 45-50 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 7,050,640 issued to Acharya et al. ("Acharya").

Claim 29 (and the other independent claims 37 and 45), the preamble is not given patentable weight. The term "each of frames having interlaced images forming a moving image is divided into one or a plurality of blocks, and the frames are hierarchically compressed and encoded into the code stream data by performing discrete wavelet transform on pixel values block by block" is not interconnected with the elements of the claim that follow "comprising" and is therefore not a positive limitation of the claim. Thus to reject this claim prior art references that lack this claim element are considered applicable to this claim. If applicant wishes to give patentable weight to the preamble, applicant should state this in his response. Acharya discloses a sub-block

acquisition unit to acquire sub-blocks included in high-frequency sub-bands block by block from code stream data (see figure 13, the subblocks in the LH subbands of levels 1-3 are acquired); a code amount calculation unit to calculate an amount of codes of each of the acquired sub-blocks (an amount of codes is calculated for the subblocks in figure 13, see also the discussion of coding in column 9 line 40 through column 11 line 41 and the table in column 12); and a sub-block motion estimation unit to estimate a motion in each of the sub-blocks based on the calculated amount of codes thereof (see figure 13 and column 10 line 60 through column 11 line 10).

For claim 30 (and 38 and 46) Acharya discloses the sub-block motion estimation unit estimates the motion in each of a predetermined first one of the sub-blocks in a 1LH sub-band and a predetermined second one of the sub-blocks in a 1HL sub-band by comparing an amount of codes of the predetermined first one of the sub-blocks and an amount of codes of the predetermined second one of the sub-blocks (see figure 13 and column 10 line 60 through column 11 line 10).

For claim 31 (and 39 and 47), the predetermined first one and the predetermined second one of the sub-blocks are positioned in order to be decoded into a single position (see figures 10 through 13).

For claim 32 (and 40 and 48), the amount of codes of each of the sub-bands calculated by the code amount calculation unit is an amount of losslessly compressed codes of each of the sub-blocks (wavelet transforms can perform lossless compression).

For claim 33 (and 41 and 49), the amount of codes of each of the sub-blocks calculated by the code amount calculation unit is an amount of codes of each of the sub-blocks before bit truncation.

For claim 34 (and 42 and 50), Acharya discloses a frame motion estimation unit that estimates a motion of each of the frames based on the estimated motion in each of the sub-blocks of the frame (such as the error matrix in column 12).

Allowable Subject Matter

Claims 35-36, 43-44 and 51-52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not disclose the elements of claim 35 (or 43 or 51), which recites a motion estimation apparatus as claimed in claim 34, wherein the frame motion estimation unit estimates the motion of each of the frames based on a ratio obtained as a result of comparison of an amount of codes of a 1LH sub-band and an amount of codes of a 1HL sub-band, the comparison being performed on each of the sub-blocks included in the high-frequency sub-bands by the sub-block motion estimation unit.

Claim 36, which depends from claim 35, is allowable for this reason. Similarly, claim 44, which depends from claim 43 and claim 52 which depends from claim 51 are also allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey S. Smith whose telephone number is 571 270-1235. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSS
July 9, 2007



JINGGE WU
SUPERVISORY PATENT EXAMINER